



# TRANSPORTATION CONCEPT REPORT

Pacific  
Ocean




## ROUTE 20-WEST

**01 MEN-20-KP 0.0/R53.4 (PM 0.0/R33.2)**

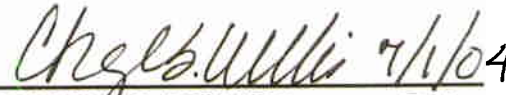
**All information in this Transportation Concept Report is subject to change as conditions change and new information is obtained.**

**I approve this Transportation Concept Report as an analysis and conceptual long-range guide for Caltrans, our Regional Planning Partners, local entities, and the public.**

**Approval Recommended:**

 7/2/04  
MATTHEW K. BRADY Date  
Acting Deputy District Director  
Program/Project Management

**Approval Recommended:**

 7/1/04  
CHERYL S. WILLIS Date  
Deputy District Director  
Planning

**Approved:**

 7/16/04  
Charles C. Fielder Date  
District Director  
District 1

**July, 2004**

## **ROUTE 20-WEST TCR**

### **TRANSPORTATION CONCEPT REPORT**

#### **Statement of Planning Intent**

Transportation Concept Report (TCR) is a planning document which describes the Department's conceptual improvement options for a given transportation route or corridor. Considering reasonable financial constraints and projected travel demand over a 20-year planning period, the TCR considers appropriate transportation facilities for each route or corridor. The TCR is a tool for implementing interregional and statewide continuity of the State's transportation network, and will be updated as needed as conditions change, or new information is obtained.

#### **Purpose of Transportation Concept Report**

The objective of the TCR is to have local, regional, and state consensus on route or corridor concepts, improvement goals, and planning strategies. This document provides concept information only and does not determine policy nor establish a course of action. Transportation Concept Reports are prepared by District staff in cooperation with local and regional agencies.

#### **Assumptions**

The following assumptions form the basis for the development of Transportation Concept Reports:

1. The relative importance of State highways in the District is based on functional classification. In general, higher priority is given to major improvements on principal arterial routes as compared to minor arterials and collectors.
2. State highways with improvement concepts must have realistic concept levels of service. Concept levels of service are not established on State highways that will only be maintained (since improvements would not be made to address level of service concerns).
3. Levels of service calculations are based on the 2000 Highway Capacity Manual (see Appendix A).
4. Determinations of future levels of service for State highways in District 1 are based in part upon Statewide and regional forecasts of State highway travel developed by Caltrans.
5. Transportation concepts are generally uniform for an entire route or corridor, unless there is a major change in function along the route or corridor (e.g., a major change in function along the route or feasibility concerns).
6. Major projects will be developed to meet design standards acceptable to the Federal Highway Administration in order to receive Federal funding for projects. Otherwise, a "design exception" must be secured during the project development process.
7. Safety projects will be pursued on an on-going basis in order to be responsive to safety concerns as they are identified.
8. No planned or programmed improvements were assumed to be complete in analyzing present and future operating conditions. The Transportation Concept Report details programmed improvements in the 2004 State Transportation Improvement Program.

## ***ROUTE 20-WEST TCR***

9. Environmental documents are not prepared for Transportation Concept Reports. Individual improvement projects identified in Transportation Concept Reports will follow established environmental processes when development is proposed as required by law.

# **TRANSPORTATION CONCEPT REPORT**

## **ROUTE 20-WEST SEGMENT FROM ROUTE 1 AT FORT BRAGG TO ROUTE 101 AT WILLITS**

**01-MEN-20-KP 0.0/R53.4 (PM 0.0/R33.2)**

### **I. CONCEPT AND RATIONALE**

#### **FACILITY CONCEPT**

The Concept for Route 20 from Fort Bragg to Willits is two-lane conventional highway on existing alignment. Additional passing opportunities should be provided through the construction of passing lanes and/or turnouts.

#### **LEVEL OF SERVICE CONCEPT**

The concept level of service on Route 20-West is "E". This is a Rural Minor Arterial segment from Route 1 to Route 101 [MEN-20-KP-0.0/R53.4 (PM-0.0/R33.2)].

#### **CONCEPT FUNCTION**

This Route Concept will serve as a conceptual long-range guide for route improvements. It recognizes financial considerations and competing priorities on this route and other routes in the District. The concept incorporates local and regional concerns regarding route development.

### **II. ROUTE MANAGEMENT STRATEGIES**

#### **REHABILITATION STRATEGY**

Route 20 from Fort Bragg to Willits (MEN-20-KP-0.0/R53.4 (PM-0.0/R33.2)) should be maintained and rehabilitated as necessary at the present width on existing alignment. A design exception must be requested for rehabilitation if the roadway does not meet the minimum width requirement and physical, financial, or environmental considerations preclude widening.

## **ROUTE 20-WEST TCR**

### **SAFETY AND OPERATIONAL IMPROVEMENT STRATEGY**

The District has an established collision surveillance and monitoring program, which identifies locations with collision concentrations and recommends safety improvements when warranted.

Route 20 contains one segment (Segment 1 near Fort Bragg) with collision rates that exceed 1.5 times the statewide average (based on similar facilities). A safety improvement has been programmed for this area [MEN-20-KP 0.4/3.9, (PM 0.3/2.4)]. Further, safety improvements at spot locations will be considered as necessary.

Bridge replacement, storm damage and operational improvement projects will also be considered as necessary. These projects, in addition to safety projects, should be constructed to appropriate State and Federal standards.

### **LIVABLE COMMUNITIES STRATEGY**

The Department uses Context Sensitive Solutions to plan, design, maintain and operate its transportation system in a way that reflects and enhances its surrounding environment while meeting transportation goals. Caltrans supports and encourages efforts by communities to integrate land use and transportation decisions, projects, plans and activities. We seek to ensure that the public has the opportunity to help shape the substance of the Department's transportation programs, policies, and actions, as they affect local communities.

Context Sensitive Solutions meet transportation goals in harmony with, and by enhancing communities and natural environments. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, and environmental values with transportation safety and performance goals.

These concepts are especially important in areas where a State Route passes through a community. On Route 20-West, this is true in the largely residential areas near the termini of the route (roughly PM 0.2/3.5 and PM 32.4/33.2). In these areas, it may be appropriate to incorporate livable communities features (such as gateway features, bike-lanes, median landscaping, etc.) to calm traffic and make the streetscape more comfortable for non-motorized traffic.

### **GOODS MOVEMENT STRATEGY**

Route 20 is a major all-weather route serving residents and businesses along the Route. It is used to transport food and all other essential supplies to residents and businesses, and connects Route 1 with Route 101. Due to the relatively steep grades and dimensions of the Route, Surface Transportation Assistance Act (STAA) \* trucks are prohibited. An advisory is posted for trucks over 30 feet (kingpin to rear axle) for all of Route 20-West.

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\* Tractor semi-trailers in excess of 65'; semi-trailers with kingpin to rear axle greater than 38' for single axle or 40' for double axle; doubles combinations over 75' long.

## **ROUTE 20-WEST TCR**

Truck volumes on the Route are summarized in Table I below:

**Table I**  
**2002 Truck Volumes on Route 20**

Segment	Vehicle AADT Total	Truck AADT Total	Truck % of total vehicles	Number of 5-axle trucks
Fort Bragg to Willits eastbound KP 0.0/R53.1 (PM 0.0/R32.97)	10000	660	6.6	310

(Source: "2002 Annual Average Daily Truck Traffic on the State Highway System")

### **NON-MOTORIZED FACILITIES STRATEGY**

Due largely to the relatively steep grades and curvilinear characteristics of Route 20-West, it generally has light non-motorized traffic (with the exception of the residential areas, near the route's termini, previously noted). The majority of the route is traveled by only the most experienced and dedicated cyclists. Caltrans will work with the Mendocino Council of Governments (MCOG) to improve bicycle and pedestrian facilities along Route 20-West, as feasible.

### **CORRIDOR PRESERVATION STRATEGY**

The concept for Route 20-West in District 1 is two-lane conventional highway with additional passing lanes. While some additional right of way will be needed for passing lanes, no substantial long-term right of way needs are anticipated.

No major surface streets parallel the Route 20-West corridor in the immediate area. Route 20-West continues to be the major connector between Route 1 and Route 101 in this area.

## **III. ALTERNATIVE CONCEPTS CONSIDERED**

No alternative concepts were considered for Route 20-West.

## **IV. ROUTE ANALYSIS**

### **CHARACTERISTICS**

Route 20 in District 1 begins at Route 1 and progresses generally easterly across Mendocino County to Route 101 at Willits. At Route 101 there is a break in Route 20 and it continues again just north of the community of Calpella in a generally southeasterly direction across the remainder of Mendocino County. Route 20 proceeds across central Lake County along the north shore of Clear Lake, then over mountainous terrain to the Lake/Colusa County

## **ROUTE 20-WEST TCR**

line. In District 3 it continues on to connect with Route I-5 near the City of Williams. Route 20 within District 1 is approximately 145 kilometers (90 miles) in length.

Due to the break in the route, and the substantially different operational characteristics between Route 20-West (Fort Bragg to Willits) and Route 20-East (from Route 101 to Interstate 5), this Route Concept Report addresses Route 20-West corridor [MEN-20-KP 0.0/R53.4 (PM 0.0/R33.2)] as separate from the rest of the route. Another Route Concept Report will be prepared for the segment of Route 20 that traverses the north-shore of Clear Lake—that portion of Route 20 extending easterly from Route 29, near Upper Lake to Route 53, east of Clearlake Oaks [LAK-20-KP 13.4/50.9 (PM 8.33/31.61)]. The remainder of Route 20 (from Calpella to Upper Lake and from the Route 53 to Williams) will be covered in the Transportation Corridor Report for the Principal Arterial Route (20/29/53/20).

### **ROUTE PURPOSE**

Route 20 provides highway access to the Mendocino Coast for visitors from inland areas. Recreational trips are primarily in the months from May to September. The route is also used by local residents (mostly near Willits and Fort Bragg), some commercial activity, and Jackson State Forest.

### **ROUTE SEGMENTATION**

Route 20-West is segmented below for System Planning purposes:

**Table II**  
**Route 20-West Segmentation**

SEG #	ROUTE 20		DESCRIPTION
	KP	PM	
1	MEN-0.0/3.4	0.0/2.1	From Route 1 at Fort Bragg to Summer Lane
2	MEN-3.4/50.9	2.1/31.6	Summer Lane to Broadus Creek Bridge
3	MEN-50.9/R53.4	31.6/R33.2	Broadus Creek Bridge to Route 101 at Willits
			Break in Route

### **LAND USE**

Land use adjacent to Route 20 is a mix of residential, commercial and agricultural/timber and varies among segments. In the vicinity of Fort Bragg, the area is characterized as predominately rural residential. Further east, the Route passes through the Jackson State Forest, and transitions to residential and commercial in the vicinity of Willits.

The only Tribal land in the vicinity of Route 20-West is the Black Jack Casino, located about 2 miles west of Willits. It is owned and operated by the Sherwood Valley Band of the Pomo Tribe. The tribe was consulted in the creation of this document (April, 2004).



## **ROUTE 20-WEST TCR**

### **EXISTING FACILITIES**

Table III summarizes existing facility characteristics for the Route 20 corridor in District 1:

**Table III**  
**Existing Facility Characteristics**  
**Route 20**

SEG #	LAK-53		DESCRIPTION	EXISTING FACILITY
	KP	PM		
1	MEN-0.0/3.4	0.0/2.1	From Route 1 at Fort Bragg to Summer Lane	2-lane conventional
2	MEN-3.4/50.9	2.1/31.6	Summer Lane to Broaddus Creek Bridge	2-lane conventional
3	MEN-50.9/53.4	31.6/R33.2	Broaddus Creek Bridge to Route 101 at Willits	2-lane conventional
			Break in Route	

Functional Classification	Rural Minor Arterial
Eligible for Federal Funding	Yes
Freeway and Expressway System	No
Eligible for Scenic Highway Designation	Yes
Subsystem of Highways for Extra Legal Loads (SHELL)	No
Surface Transportation Assistance Act (STAA) Trucks Allowed:	No
Strategic Highway Network	No
National Highway System	No
Interregional Road System	Yes
Public Airports Served	None
Rail Service	California Western Railroad (Skunk Train)
Intercity Bus Service	Public transit service between Route 1 and Route 101 at Willits
Intersecting State Highway Routes	1, 101
Park and Ride Lots	None

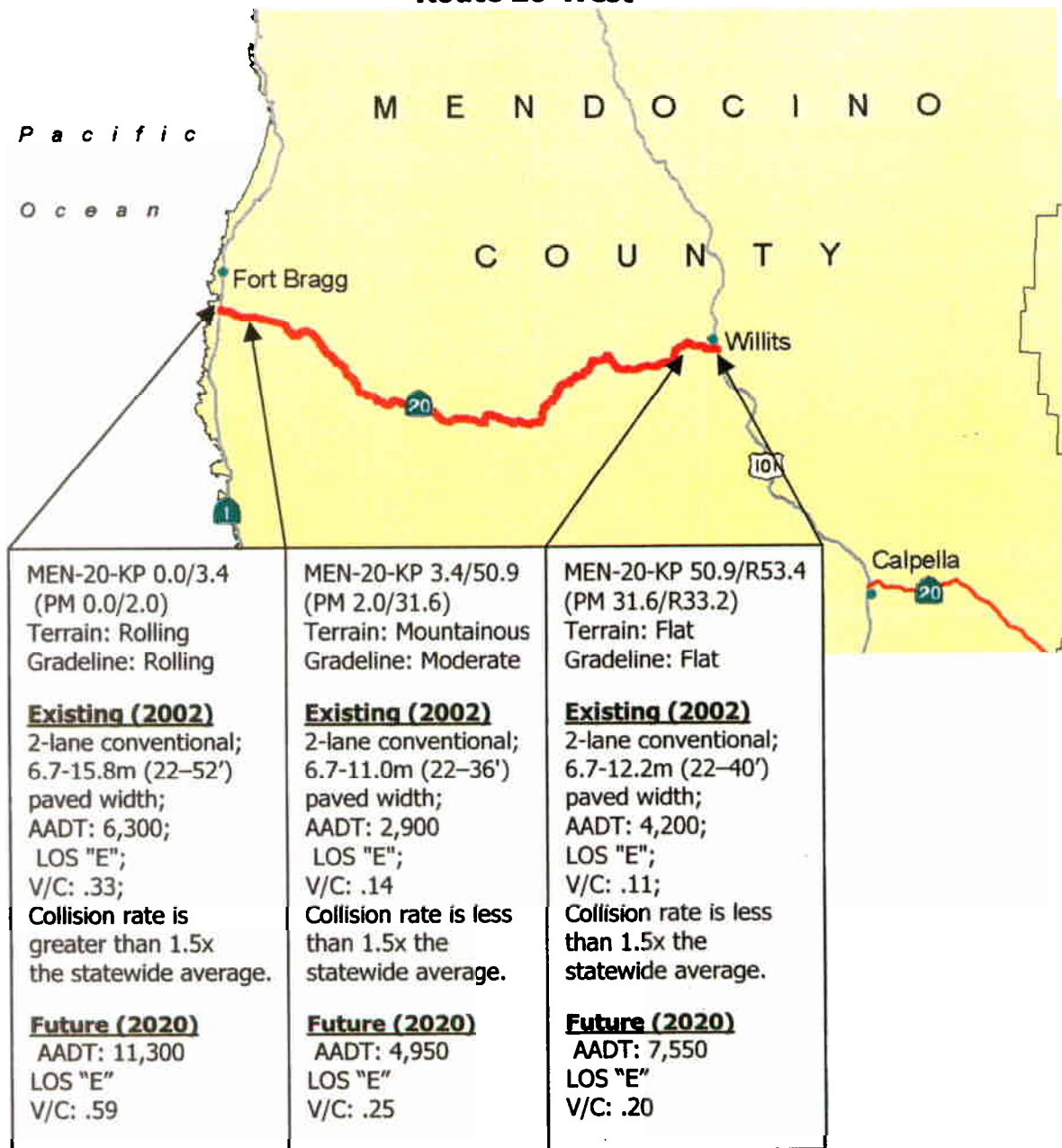
### **OPERATING CONDITIONS**

Present and future operating conditions, including traffic volume ranges, level of service, and volume to capacity ratios for both existing and anticipated future conditions for Route 20 are shown on Map 1. Further information regarding specific operating and geometric conditions may be found in Caltrans source documents (e.g., the State Highway Inventory, the State Highway Log, and Traffic Volumes on California State Highways, etc.)



## ROUTE 20-WEST TCR

### Map 1 Present and Predicted Operating Conditions Route 20-West



### **PROGRAMMED IMPROVEMENTS**

A safety improvement project has been programmed in the 2002 SHOPP for Route 20-West near Fort Bragg [MEN 20-KP 0.4/3.9, (PM 0.3/2.4)], to address safety concerns in this largely residential area. Options being considered at this time include a two-way center left-turn lane through all or part of the project, bicycle lanes, paved shoulders, and "gateway" features for traffic calming.

## ***ROUTE 20-WEST TCR***

In addition to the above referenced programmed project, five projects on Route 20 are programmed into the 2002 State Highway Operation and Protection Program (SHOPP) at a cost of approximately \$30 million. These projects generally address safety, rehabilitation, and operational concerns.

### **V. ENVIRONMENTAL CONSIDERATIONS**

Principal environmental considerations along Route 20 include:

- Seasonal wetlands exist along the route;
- At least two streams could support salmonid species;
- Several state and federally listed species exist within the corridor, in particular northern spotted owl and steelhead;
- Oak woodlands exist along the corridor;
- Invasive species, such as scotch broom and pampas grass, should be removed and/or prevented from spreading along corridor;
- The roadway through Jackson Demonstration State Forest is narrow and widening would result in tree removal;
- The western most section of the corridor is within the State Coastal Zone;
- Historic structures and resources exist along the corridor, including barns, fences, cemeteries, and potential archaeological sites;
- Because of concerns related to use of herbicides, the District has named Mendocino County a "no spray zone" in its Vegetation Control Plan. Only non-chemical vegetation control methods will be used.

### **VI. REGIONAL TRANSPORTATION PLANNING**

#### **MENDOCINO COUNCIL OF GOVERNMENTS**

The 2003 *Mendocino County Regional Transportation Plan*, prepared by the Mendocino Council of Governments, discusses transportation concerns related to Route 20 as follows:

#### **Corridor Descriptions**

State Route 20 is also a corridor of interregional and regional significance, providing a generally east-west route from coast at Fort Bragg to the central valley, passing through Lake County on our eastern boundary. Route 20 is an essential link to the coastal areas for summer recreational travel; and is an important goods movement route connecting the US 101 Corridor with the I-5 Freeway in the upper central valley.

p. 17, Section A, Significant Highway Corridors

## **Projects Identified**

### Men-SR-20 (Various)

Construct passing lanes at various locations along the SR-20 Corridor between Fort Bragg and Willits. The creation of additional passing opportunities is essential to maintaining traffic flow due to the impact of heavy truck traffic on this route. Caltrans is in the process of developing a Project Study Report for a project in this area.

p. 21

### Men SR-20 (1.0/2.1)

Widen SR-20 from Trillium Lane to Summers Lane to accommodate two-way left turn lane east of SR-1 Junction. This project was identified as a high priority project in the 1996 RTP.

p.23

## **VII. AREAS OF CONCERN**

The following criteria are used to identify areas of concern on Route 20-West, based on an analysis of level of service and collision history:

1. A segment is considered to be a "level of service concern" if the concept level of service (LOS) will not be achieved under present or future traffic conditions, or the segment operates at capacity during peak hour.
2. A segment is considered to be a "safety concern" if the total collision rate for a five-year period for that segment exceeds one and one-half times the statewide average, based on similar facilities.

### **Level of Service Concerns**

None of the segments comprising Route 20-West exhibit existing and/or future level of service concerns.

### **Safety Concerns**

The following segment has a collision rate exceeding one and one-half times the statewide average, based on similar facilities:

MEN 20-KP 0.4/3.9, (PM 0.3/2.4) (Junction of Route 1 to 2 mi. east of Fort Bragg)

A safety project is programmed (described above) to address the safety concerns in this segment.

As previously noted, the District has an established collision surveillance and monitoring program, which identifies locations with collision concentrations and recommends safety improvements when warranted.

**VI. IMPROVEMENTS NECESSARY TO ACHIEVE THE ROUTE CONCEPT**

Improvements necessary to achieve the concept level of service through the year 2020 on Route 20 are shown in Table V below:

**Table V  
Improvements Needed to Meet Route Concept on Route 20-West**

PROJECT LOCATION	DESCRIPTION	APPROX. CONST. COST
MEN 20 KP 0.4/3.9 (PM 0.3/2.4)	Widen to Improve Safety near Fort Bragg	\$9.1 Million
MEN 20 KP 10.6/11.4, 20.9/21.9 (PM 6.58/7.08, 13.0/13.6)	Construct additional passing lanes and/or turnouts	\$3.8 Million

Safety improvements should be made, as necessary and operational improvements should be considered on an exception basis.

**IX. TRANSIT AND HIGH OCCUPANCY VEHICLE (HOV) CONSIDERATIONS**

Public Transit service from Fort Bragg to Willits occurs on a daily basis. Service is provided by the Mendocino Transit Authority in a 20-passenger bus and by the Mendocino Stage in a mini-van, although the Stage primarily moves freight. No State-owned Park and Ride lots have been developed along Route 20.

Due to the rural nature of Route 20, and relatively low peak hour traffic volumes during commute hours, no HOV considerations are necessary.

A listing of transit service providers and yearly ridership for Route 20 is presented in Table VI below:

**Table VI  
Service Providers and Ridership on Route 20-West**

Operator	Frequency of service	Location	Yearly Ridership
MTA Route 65	2 trips/day 7 days/week	Service between Mendocino, Fort Bragg, Willits, continuing to Santa Rosa (MEN-20-KP 0.0/53.4 (PM 0.0/33.19))	18,108
Mendocino Stage	30 trips/week weekdays	Fort Bragg to Willits (MEN-20-KP 0.0/53.4 (PM 0.0/33.19))	freight

**X. ACCESS MANAGEMENT**

Access management involves managing where vehicles are allowed to enter the highway, to improve highway operations and reduce accidents. Access management is a potential issue on Route 20-West near the city of Fort Bragg (see previously mentioned safety project), and near the city of Willits.

**XI. ADOPTIONS, RESCISSIONS AND RELINQUISHMENTS**

New or changed highway routings generally require adopting a new route and rescinding the previously adopted route. The Route may also be relinquished to a city, county or other public entity.

No significant adoptions, recessions, nor relinquishments are anticipated on Route 20-West in District 1.



## ROUTE 20-WEST TCR

### Appendix A Level of Service (LOS)

#### LOS

#### Description of Typical Traffic Conditions

#### Delay

#### Service Rating

**A**



Highest quality of service. Free traffic flow, low volumes and densities. Little or no restriction on maneuverability or speed, and a high level of comfort and convenience.

None

Excellent

**B**



Stable traffic flow – speed becoming slightly restricted. the presence of others in the traffic stream begins to be noticeable. Low resistance on maneuverability.

None

Very Good

**C**



Stable traffic flow, but less freedom to select speed, change lanes or pass. Comfort and convenience Decreasing as density increases.

Minimal

Good

**D**



Approaching unstable flow. Speeds tolerable, but subject to sudden and considerable variation. Reduced maneuverability, driver comfort and convenience.

Minimal

Adequate

**E**



Unstable traffic flow with rapidly fluctuating speeds and flow rates. Short headways, low maneuverability and low driver comfort and convenience.

Significant

Fair

**F**



Force traffic flow. Speed and flow may drop to zero with high densities, Queues tend to form behind such locations since arrival flow exceed traffic discharges.

Considerable

Poor